

REMARKS/ARGUMENTS

Claims 1-26, 33-39, 45-50, 67, 73 and 74 have been rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out the distinctly claim the subject matter which applicant regards as the invention. Claims 1-3, 33, 35-39 and 45-49 have been rejected under 35 U.S.C. §102(b) as being anticipated by Clark et al. (US 3,231,151). Claim 67 has been rejected under 35 U.S.C. §102(b) as being anticipated by Janssen (US 4,566,816). Claims 73 and 74 have been rejected under 35 U.S.C. §102(b) as being anticipated by Liou (US 5,857,795). Claims 4-14 and 34 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Clark in view of Bennett (US 2,488,655). Claims 1-14, 26 and 49 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Bennett in view of Clark. Claims 15-21, 24, 25 and 50 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Bennett in view of Clark as applied to claim 2 above, and further in view of Calvert (US 4,667,363).

Regarding use of the term "cam" in claim 73, the Examiner is respectfully directed to page 25, last paragraph of the specification in which the term "cam" and its function with regard to aspects of the present invention are well defined. The Examiner is also respectfully directed to page 11, third paragraph, although reference is made to a "pin", this pin is to be understood by persons skilled in the technology as a cam in relation to varying the gap between the roller and the outlet in order to provide paint flow regulation.

Regarding the prior art cited, the Examiner has rejected certain claims under 35 U.S.C. 102(b). The present invention as now defined in the above revised and amended claim 1 more particularly is directed towards the applicator in which there is progressive stimulated paint flow to a head which has a roller and means for regulating paint flow to that roller. It will be appreciated with any forced fluid flow care must be taken that there is adequate distribution of the paint fluid across the roller rather than simply spurting that

paint as a jet from the outlet. In such circumstances flow regulation is necessary, and this flow regulation in accordance with aspects of the present invention is achieved through controlling the gap between the roller and the outlet. Advantageously the gap is adjusted dependent upon the paint viscosity and wear upon the roller. By controlling the gap adequate distribution of the paint upon the roller is achieved without spurting of the paint particularly when the initial drive action or movement to the piston is provided. It will be understood that traditional roller paint applicators have simply loaded the roller by dipping the roller in a paint tray but such an approach is limited in terms of quality as well as applicability of the paint to the roller for effective operation particularly where large areas must be painted. Most industrial applicators in such circumstances have utilized compressed air as the driving means for the paint. Such compressed air flow is generally consistent and so the pressure of the paint fluid so that the traditional approach is to present the paint through a cylinder like aperture or colander surface in the roller such that the paint is projected radially outward from the core of the roller rather than applied on the surface from a single slot or aperture. The present invention relates to utilization of a ratchet type piston movement to progressively displace a volume of paint towards the roller. Such marginal pressurization of the paint is episodal in that each movement of the piston is incremental and therefore more typically can be considered as displacing the paint rather than pressurizing it but nevertheless in the short term there is a pressurizing force to provide the displacement that unless controlled by an appropriate means will cause spurting. This regulation means in accordance with aspects to the present invention is by regulating the gap between the roller and the edges of the outlet. Particularly advantageously the roller is designed to have a narrower gap width to one side of the outlet edge in comparison with the other. Such an approach avoids problems as indicated which traditionally can only be addressed by elaborate mechanisms or by accurately controlling

both the viscosity of the paint presented and ensuring that roller wear and displacement is minimized again requiring high tolerance equipment adding to cost.

The Examiner has objected to certain claims with regard to Clark et al. anticipating those claims. Clearly such examination previously was based upon claim 1 as then presented which did not include the features of flow regulation through a gap defined between a distribution means surface and the hood. Clark essentially teaches incremental displacement of paint but utilizing a rather complex mechanism but without describing the roller mounting and flow regulation adjustments in accordance with aspects of the present invention. In such circumstances it is submitted that claim 1 as now revised is distinguished from Clark et al. by the flow regulation mechanism in accordance with aspects of the present invention, that is to say through gap width control by adjustment of the mounting for the roller. The other claims objected to by the Examiner are all dependent upon claim 1 and in such circumstances it is also submitted are distinguished from Clark et al.

Claim 67 of the present application has now been cancelled and in such circumstances the objections raised by the Examiner to this claim are moot.

The Examiner has objected to claims 73 and 74 on the basis that they are anticipated by Liou contrary to 35 U.S.C. 102(b). The examiner argues that Liou discloses a paint applicator in which there is a roller with a cam 52, 421 which has a rollover action past a paint outlet with the roll over action eccentric with different gap widths between the roller surface and the outlet. Contrary to the contention of the Examiner it is submitted that there is no cam in the sense of the present invention or a method for fine adjustment of a precise gap. The roller axle fits into a slot and a bent spring keeps that roller away from the paint feed rollers. In such circumstances when the paint roller or distributor is pushed against the wall the feed rollers come into contact with the paint distribution roller in order

to feed it with paint. The paint distribution roller moves along the slot and touches the paint feeder rollers when required. There is no description as to how such an arrangement or method utilizes a cam to allow varying eccentricity with regard to gap width between the roller surface and the outlet. Furthermore, it is submitted the teaching of Liou may not work in that it will be understood there is a necessity for there to be friction upon the painted surface which is greater than that between the paint distribution roller and the paint feed roller otherwise the distribution roller would simply slide up and down the wall rather than turn in order to be replenished with paint from the feed rollers especially when the paint is quite fluid. As indicated above aspects to the present invention relate to provision of the flow regulation means to adjust for different viscosities of paint where that paint will be partially pressurized or projected by incremental piston movements. By adjusting the gap precisely such flow can be controlled such that paint is presented upon the distribution roller without spurting. In such circumstances the gap width to one side of the outlet can be adjusted and most typically the gap width to one side of the outlet edge will be different to the gap width of an opposed edge of the outlet in the direction of roller rotation. There is no teaching in Liou to such adjustment of the gap. The Examiner has referred to pin 53 as being secured to provide for eccentric rotation this is not true.

The Examiner has objected to certain claims of the present application based upon a combination of Clark and Bennett. It is argued by the Examiner that it would have been "obvious to one skilled in the art at the time the invention was made to combine Clark which is a central core feed roller with the teaching of Bennett which relates to paint applied to the surface. Thus, there is central pressurized paint distribution radially by Clark and surface paint application taught by Bennett. The problems of central paint distribution and surface paint distribution are totally opposite and in no way related. As indicated in the introduction to the description of the present application traditional pressurized paint

flow has been through a surface aperture or colander arrangement within the roller whereby the paint is squeezed outwardly. A core chamber in such circumstances must be evenly distributed with pressurized paint in order that the paint is radially presented outwardly upon surfaces of the roller. There is an inherent regulation created by the apertures and the surface of the roller which avoids paint spluttering and in any event the roller itself will smudge and diffuse pressurization inherently. With regard to surface application of paint it will be understood that there is an open gap and in such circumstances pressurization of paint may simply result in spurting of that paint through the gap without a regulation mechanism. The teaching of Bennett is to provide two types of valve for control of the flow of paint. A needle valve and a flap valve which are secure along the paint distribution passage. In such circumstances by a combination of the respective valves one to provide a systemic paint pressurization into a plenum chamber and the other to ensure that there is accurate control of the paint pressurization applied directly to the roller results in limited if any spurting. The roller adjustment mechanism of Bennett is very crude and involves loosening two screws and brackets to move the shield and assembly forward. There is no teaching with regard to controlling the gap as a flow regulation means but rather utilization as indicated of two relatively complex valves, namely a needle valve and a flap valve.

The teaching of Bennett is that the open gap of a surface application paint applicator requires expensive or complicated valve structures to avoid spurting. The present invention teaches by consideration of the gap between the roller and the outlet edge that regulation can be achieved by that gap upon the paint as presented. It will also be understood that the roller in Bennett is held at one end so the accuracy of the gap will be of limited with no consistency along the whole width of the roller in use as the mounting may wobble and

pivot leading to gap variation between the near and far ends of the roller. The roller touches the wall and so particularly when rotated it will be understood that the gap will vary.

The Examiner has also objected to the claims based upon a combination of Bennett as the principal citation in view of Clark. As indicated above it is first submitted that a combination of Clark and Bennett would not be conventional in accordance with a person skilled in the technology. One refers to paint distribution through a central core radially outward upon the whole circumferential surface of the roller uniformly whilst the other is a surface application of that paint through a slot radially inwardly onto the surface as the roller moves past that slot. The problems of such approaches are radically different. Core or central paint distribution requires high pressures typically achieved through compressed air or other mechanisms. The present invention relates to incremental presentation of paint through a piston distribution and normally a ratchet. Such pressurization as indicated would be inadequate for central paint distribution in that the resistance of the roller surface, that is to say fleece or foam with apertures would mean that insufficient paint could be presented with pressurization to adequately distribute paint upon the whole radial surface of the roller at anyone time by incremental displacement. Thus the Examiner's contention that a person skilled in the art would simply substitute the paint pressurization means disclosed in Clark for that in Bennett is not appropriate. In any event for the same reasons as described above combination of Clark and Bennett or Bennett and Clark would not teach the paint regulation through gap control and in control through adjustment of the mountings in accordance with aspects of the present invention.

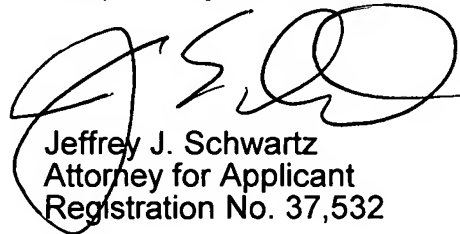
The other claims are dependent upon amended claim 1 and are likewise considered allowable.

In order to further distinguish aspects of the present invention as indicated, claims 1, 3, 4, 5 and 6 are now combined in the proposed amended claim 1 above. In such

circumstances it is submitted that the regulation achieved through gap control and that this gap control is associated with a mounting means distinguishes the present invention from the prior art cited. The principal citations of Bennett and Clark would not be combined as being related to different solutions to paint pressurization with regard to paint applicators utilizing rollers. There is no teaching with regard to gap utilization for flow regulation.

Applicant submits that all of the claims in the case are now in condition for allowance. Such action is therefore requested at an early date. If the examiner believes that issues remain for discussion, he is invited to contact the undersigned at the telephone number or e-mail address listed below.

Respectfully submitted,



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